

## SEQUENCE LISTING

<110> Corena T. McMANUS  
David A. JONES

<120> METHYL-CPG BINDING DOMAIN PROTEIN 2 HOMOLOGS

<130> 38509-0016US1

<140>

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<150> PCT/US03/10631

<151> 2003-04-07

<150> 60/369,851

<151> 2002-04-05

<160> 6

<170> PatentIn Ver. 2.1

<210> 1

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<212> DNA

<213> Homo sapiens

<400> 1

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<210> 2

<211> 208

<212> PRT

<213> Homo sapiens

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Lys Leu Lys Arg Asn Met Met Pro Trp Ala Leu Gln Lys Lys Arg Glu
  20              25              30

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Ile His Met Ala Lys Ala His Arg Arg Arg Ala Ala Arg Ser Ala Leu

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35

40

45

Pro Met Arg Leu Thr Ser Cys Ile Phe Arg Arg Pro Val Thr Arg Ile  
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Arg Ser His Pro Asp Asn Gln Val Arg Arg Arg Lys Gly Asp Glu His  
65 70 75 80

Leu Glu Lys Pro Gln Gln Leu Cys Ala Tyr Arg Arg Leu Gln Ala Leu  
85 90 95

Gln Pro Cys Ser Ser Gln Gly Glu Gly Ser Ser Pro Leu His Leu Glu  
100 105 110

Ser Val Leu Ser Ile Leu Ala Pro Gly Thr Ala Ser Glu Ser Leu Asp  
115 120 125

Arg Ala Gly Ala Glu Arg Val Arg Ser Pro Leu Glu Pro Thr Pro Gly  
130 135 140

Arg Phe Pro Ala Val Ala Gly Gly Pro Thr Pro Gly Met Gly Cys Gln  
145 150 155 160

Leu Pro Pro Pro Leu Ser Gly Gln Leu Val Thr Pro Ala Asp Ile Arg  
165 170 175

Arg Gln Ala Arg Arg Val Lys Lys Ala Arg Glu Arg Leu Ala Lys Ala  
180 185 190

Leu Gln Ala Asp Arg Leu Ala Arg Gln Ala Glu Met Leu Thr Cys Arg  
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&lt;211&gt; 790

&lt;212&gt; DNA

&lt;213&gt; Homo sapiens

&lt;400&gt; 3

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&lt;211&gt; 194

<212> PRT  
<213> Homo sapiens

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|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Ala | Lys | Ser | Ser | Gln | Arg | Lys | Gln | Arg | Asp | Cys | Val | Asn | Gln | Cys |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Lys | Ser | Lys | Pro | Gly | Leu | Ser | Thr | Ser | Ile | Pro | Leu | Arg | Met | Ser | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Tyr | Thr | Phe | Lys | Arg | Pro | Val | Thr | Arg | Ile | Thr | Pro | His | Pro | Gly | Asn |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |
| Glu | Val | Arg | Tyr | His | Gln | Trp | Glu | Glu | Ser | Leu | Glu | Lys | Pro | Gln | Gln |
|     | 50  |     |     |     |     | 55  |     |     |     |     | 60  |     |     |     |     |
| Val | Cys | Trp | Gln | Arg | Arg | Leu | Gln | Gly | Leu | Gln | Ala | Tyr | Ser | Ser | Ala |
|     | 65  |     |     |     | 70  |     |     |     |     | 75  |     |     |     |     | 80  |
| Gly | Glu | Leu | Ser | Ser | Thr | Leu | Asp | Leu | Ala | Asn | Thr | Leu | Gln | Lys | Leu |
|     |     |     |     | 85  |     |     |     |     | 90  |     |     |     |     | 95  |     |
| Val | Pro | Ser | Tyr | Thr | Gly | Gly | Ser | Leu | Leu | Glu | Asp | Leu | Ala | Ser | Gly |
|     |     |     | 100 |     |     |     |     | 105 |     |     |     |     | 110 |     |     |
| Leu | Glu | His | Ser | Cys | Pro | Met | Pro | His | Leu | Ala | Cys | Ser | Ser | Asp | Ala |
|     |     | 115 |     |     |     |     | 120 |     |     |     |     | 125 |     |     |     |
| Val | Glu | Ile | Ile | Pro | Ala | Glu | Gly | Val | Gly | Ile | Ser | Gln | Leu | Leu | Cys |
|     | 130 |     |     |     |     |     | 135 |     |     |     | 140 |     |     |     |     |
| Lys | Gln | Phe | Leu | Val | Thr | Glu | Glu | Asp | Ile | Arg | Lys | Gln | Glu | Gly | Lys |
|     | 145 |     |     |     | 150 |     |     |     |     | 155 |     |     |     |     | 160 |
| Val | Lys | Thr | Val | Arg | Glu | Arg | Leu | Ala | Ile | Ala | Leu | Ile | Ala | Asp | Gly |
|     |     |     |     | 165 |     |     |     |     | 170 |     |     |     |     | 175 |     |
| Leu | Ala | Asn | Glu | Ala | Glu | Lys | Val | Arg | Asp | Gln | Glu | Gly | Cys | Pro | Glu |
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Lys Arg

<210> 5  
<211> 262  
<212> PRT  
<213> Homo sapiens

<400> 5

|     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |     |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Met | Asp | Cys | Pro | Ala | Leu | Pro | Pro | Gly | Trp | Lys | Lys | Glu | Glu | Val | Ile |
| 1   |     |     |     | 5   |     |     |     |     | 10  |     |     |     |     | 15  |     |
| Arg | Lys | Ser | Gly | Leu | Ser | Ala | Gly | Lys | Ser | Asp | Val | Tyr | Tyr | Phe | Ser |
|     |     |     | 20  |     |     |     |     | 25  |     |     |     |     | 30  |     |     |
| Pro | Ser | Gly | Lys | Lys | Phe | Arg | Ser | Lys | Pro | Gln | Leu | Ala | Arg | Tyr | Leu |
|     |     | 35  |     |     |     |     | 40  |     |     |     |     | 45  |     |     |     |

Gly Asn Thr Val Asp Leu Ser Ser Phe Asp Phe Arg Thr Gly Lys Met  
50 55 60

Met Pro Ser Lys Leu Gln Lys Asn Lys Gln Arg Leu Arg Asn Asp Pro  
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Leu Asn Gln Asn Lys Gly Lys Pro Asp Leu Asn Thr Thr Leu Pro Ile  
85 90 95

Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro Val Thr Lys Val Thr Asn  
100 105 110

His Pro Ser Asn Lys Val Lys Ser Asp Pro Gln Arg Met Asn Glu Gln  
115 120 125

Pro Arg Gln Leu Phe Trp Glu Lys Arg Leu Gln Gly Leu Ser Ala Ser  
130 135 140

Asp Val Thr Glu Gln Ile Ile Lys Thr Met Glu Leu Pro Lys Gly Leu  
145 150 155 160

Gln Gly Val Gly Pro Gly Ser Asn Asp Glu Thr Leu Leu Ser Ala Val  
165 170 175

Ala Ser Ala Leu His Thr Ser Ser Ala Pro Ile Thr Gly Gln Val Ser  
180 185 190

Ala Ala Val Glu Lys Asn Pro Ala Val Trp Leu Asn Thr Ser Gln Pro  
195 200 205

Leu Cys Lys Ala Phe Ile Val Thr Asp Glu Asp Ile Arg Lys Gln Glu  
210 215 220

Glu Arg Val Gln Gln Val Arg Lys Lys Leu Glu Glu Ala Leu Met Ala  
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Asp Ile Leu Ser Arg Ala Ala Asp Thr Glu Glu Met Asp Ile Glu Met  
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Asp Ser Gly Asp Glu Ala  
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<210> 6

<211> 291

<212> PRT

<213> Homo sapiens

<400> 6

Met Glu Arg Lys Arg Trp Glu Cys Pro Ala Leu Pro Gln Gly Trp Glu  
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Val Phe Tyr Tyr Ser Pro Ser Gly Lys Lys Phe Arg Ser Lys Pro Gln

35

40

45

Leu Ala Arg Tyr Leu Gly Gly Ser Met Asp Leu Ser Thr Phe Asp Phe  
50 55 60

Arg Thr Gly Lys Met Leu Met Ser Lys Met Asn Lys Ser Arg Gln Arg  
65 70 75 80

Val Arg Tyr Asp Ser Ser Asn Gln Val Lys Gly Lys Pro Asp Leu Asn  
85 90 95

Thr Ala Leu Pro Val Arg Gln Thr Ala Ser Ile Phe Lys Gln Pro Val  
100 105 110

Thr Lys Ile Thr Asn His Pro Ser Asn Lys Val Lys Ser Asp Pro Gln  
115 120 125

Lys Ala Val Asp Gln Pro Arg Gln Leu Phe Trp Glu Lys Lys Leu Ser  
130 135 140

Gly Leu Asn Ala Phe Asp Ile Ala Glu Glu Leu Val Lys Thr Met Asp  
145 150 155 160

Leu Pro Lys Gly Leu Gln Gly Val Gly Pro Gly Cys Thr Asp Glu Thr  
165 170 175

Leu Leu Ser Ala Ile Ala Ser Ala Leu His Thr Ser Thr Met Pro Ile  
180 185 190

Thr Gly Gln Leu Ser Ala Ala Val Glu Lys Asn Pro Gly Val Trp Leu  
195 200 205

Asn Thr Thr Gln Pro Leu Cys Lys Ala Phe Met Val Thr Asp Glu Asp  
210 215 220

Ile Arg Lys Gln Glu Glu Leu Val Gln Gln Val Arg Lys Arg Leu Glu  
225 230 235 240

Glu Ala Leu Met Ala Asp Met Leu Ala His Val Glu Glu Leu Ala Arg  
245 250 255

Asp Gly Glu Ala Pro Leu Asp Lys Ala Cys Ala Glu Asp Asp Asp Glu  
260 265 270

Glu Asp Glu Glu Glu Glu Glu Glu Glu Pro Asp Pro Asp Pro Glu Met  
275 280 285

Glu His Val  
290